

# INDIA 2050

**NAVIGATING  
THE ROADMAP TO GROWTH  
SUSTAINABILITY AND INCLUSION**

**(A MULTIDISCIPLINARY APPROACH)**

*Editors*

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# Use of ICT in Teaching-Learning Process: A Literature Review; As ICT a Change Agent for Education

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**Abstract :** *The abbreviation ICT stands for Information and Communication Technology which is working as a powerful instrument to enhance the quality of education. Information and communication technology (ICT) have become commonplace entities of in all aspect of life. Across the past 20 years the use of ICT has fundamentally changed the practices and procedures of nearly all forms of endeavor within business and governance. Education is a very socially oriented activity and quality education has traditionally been associated with strong teachers having high degree of personal contacts with learners. The use of ICT in education lends itself to more students-centered learning setting. As the world is proceeding very rapidly in to digital media and information, the role of ICT In education is become more significance in the 21<sup>st</sup> century. ICT helps to make the teaching-learning process easier and provide instruction according to the level of mental potentialities of the students. At the same time, it is also working as a motivational aid in teaching-learning process. ICT allows the academic institutions to reach the disadvantaged section of the classroom students and provide an environment of democratic classroom communication. The ICT involve the use of Audio-Visual aid, Computer, Telematic tools, e-learning. Smart class, Video-conferencing. SITE (Satellite Instructional Television Experiments) on the part of lecturers.*

**Key words:** *E-learning, ICT, Smart Class, SITE, Video-Conferencing.*

## Introduction

Information and Communication Technologies is a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information in educational environment. This wider definition of ICT includes technologies such as Radio, Television, Video, DVD, Telephone, SITE, Computer and Network hardware and software, as well as the equipments and services associated

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with video-conferencing and e-mail (UNESCO 2002). ICT is a strong instrument for extending educational opportunities to the remote areas. ICT inspire learners to care of their own learning responsibility and offers problem centric and inquiry-based learning which can provide easy access and information-based resources. It is important to achieve the necessary skills and ability to use technology as an aid to research, organize, evaluate, transmitting information and the possession of fundamental understanding of the ethical or logical issues and its effective use. Success of ICT based education depends upon the teacher ability to keep pace with the developments since teachers are responsible for quality control, improvements of learning and the aggregate effectiveness of the learning process. The purpose of this paper aims to bring together the findings and key points from a review of significant part of the available literature associated with ICT for education and ICT in education.

### ICT Improving Teaching-learning Process

ICT is used at present in the field of education very widely, which have undoubtedly affected teaching-learning and research (Yusuf, 2005). ICT have the potentiality to accelerate, enrich, engage, and to motivate students, to help relate school experiences to work practices, create economic viability for tomorrow's workers as well as strengthening teaching and helping school change (Devis and Tearle, 1999, Lemke and Coughlin, 1998, cited by Yusuf, 2005), In a rapidly changing world, basic education is essential for an individual be able to access apply information. Such ability much find include ICTs in the global village.

According to Zhao and Cziko (2001) three conditions are necessary for teachers to introduced ICT in to their classroom: teachers should believe in the effectiveness of technology, teacher should believe that the use of technology will not cause any disturbances, and finally teacher should believe that they have control over technology. However, research studies show that most teachers do not make use of the potential of ICT to contribute to the quality of learning environments, although they value this potential quite significantly (Smeets, 2005).

Harris (2002) conducted case studies in three primary and three secondary schools, which focused on innovative pedagogical practices involving ICT He concludes that the benefit of ICT will be gained "when confident teachers are willing to explore new opportunities for changing their classroom practice by using ICT.

R. Krishnavani highlighted the usage of ICT for administration in higher education institutions in terms of general administration, payroll and financial accounting administration of student's data, personal records maintenance and library system.

### ICT Enhancing quality and Accessibility of Education

ICT increases the flexibility of delivery of education so that learner can access

knowledge anytime and from anywhere. It can influence the way students are taught and how they learn as now the processes are learner driven and not by teachers. This is term would better prepare the learners for lifelong learning as well as to improve the quality of learning. In concert with geographical flexibility, technology facilitated educational programs also remove many of the temporal constraints that face learners with special needs (Moore & Kearsley, 1996).

Another most important contribution of ICT in the field of education is -Easy access to learning. With the help of Ict. students can now browse through e-books, sample examination papers, previous year papers etc and can also have an easy access to resource person, mentors, experts, researchers, professional and peers-all over the world. This flexibility has heightened the availability of just in time learning and provided learning opportunities for many more learners who previously were constrained by other commitments (Young. 2002)

Amutabi and Oketch. (2003) India has a billion-plus population and a high proportion of the young and hence it has a large formal education system. The demand for education in developing countries like India has skyrocketed as education is still regarded as an important bridge of social, economic, and political mobility. People have to access knowledge via ICT to keep pace with the latest developments (Plomp et al. 2007). ICT can be used to remove communication barriers such as that of space and time (Lim and Chai, 2004), ICT allows for the creation of digital resources like digital libraries where the students, teachers, and professionals can access research materials and course materials from any place at any time (Bhattacharya and Sharma, 2007; Cholin, 2005)

Bottino (2003) and Sharma (2003) mentioned that the use of ICT can improve performance, teaching, administration and develop relevant skills in the disadvantaged communities. It also improves the quality of education by facilitating learning by doing. real time conversation; directed instructions, analysis, critical thinking, self-learning, as well as the ability to communicate collaborate and learn (Yuen, 2003)

### **ICT Enhancing Learning Environment**

New Media Consortium, (2007) reported that ICT presents an entirely new learning environments for students, thus requiring a different skills set to be successful. Critical thinking, research, and evaluation skills are growing in importance as students have increasing volumes of information from a variety of sources to sort through.

When looking at the current widespread diffusion and use of ICT in modern societies, especially by the young the so-called digital generation then it should be clear that ICT will affect the complete learning process today and in future. Authentically is an important issue which should be addressed in the design and development of learning environment (Collins, 1996). Learning environments need to reflect the potential

uses of knowledge that pupils are expected to master, in order to prevent the acquired knowledge from becoming inert (Bransford et al., 1990; Duffy and Knuth, 1997). In addition, teacher should stimulate pupils to engage in active knowledge construction. This calls for open ended learning environment instead of learning environment which focus on a mere transmission of fact (Collins, 1996; Hannafin et al, 1994; Jonassen et al, 1999). ICT may contribute to creating powerful learning environments in numerous ways.

### **ICT Enhancing Learning Motivation**

ICT can enhance the quality of education in several ways, by increasing learner motivation and engagement, by facilitating the acquisition of basic skills and by enhancing teachers training. ICT are also transformational tools which, when used appropriately, can promote the shift to a learner centered environment. ICT especially computers and internet technologies, enables new ways of teaching and learning rather than simply allow teachers and students to do what they have done before in better way. ICT has an impact not only on what students should learn, but it also plays a major role on how the student should learn. Along with a shift of curricula from "content centered" to "competence based", the mode of curricula delivery has now shifted from "teachers centered" forms of delivery to "student centered" forms of delivery with learning motivation.

ICT changes the characteristic of problems and learning task and hence play an important task as mediator of cognitive development, enhancing the acquisition of generic cognitive competencies as essential for life in our knowledge society. Students using ICT for learning purposes become immersed in the process of learning and as more and more students use computers as information sources and cognitive tools (Reeves and Jonassen, 1996), the influence of the technology on supporting how students learn will continue to increase.

(Berge, 1998; Barron, 1998) learning approaches using contemporary ICTs provide many opportunities for constructivist learning through their provision and support for resource based, students centered settings and by enabling learning to be related to context and practice.

### **ICT Enhancing Performance the Scholastic**

Based on extensive usage of ICT in education the need appeared to unravel the myth that surrounds the use of information and communication technology as an aid to teaching and learning, and the impact it has on students' academic performances. ICT are said to help expand access to education, strengthen the relevance of education to the increasingly digital workplace and rise educational quality.

(Valasaidou and Bausiou, 2005) The direct link between ICT use and students'

academic performance has been the focus of extensive literature during the last two decades. ICT helps students to their learning by improving the communication between them and the ICT help in prodigal by whinking teaching practices (Fleckno 2002, MoCormick & Scrimshow, 2001) developing the kind of graduate and citizen red in an infivemalion sex required (degement of education, 201), improving educational outcomes (especially pass rates) and enhancing and improving the quality of traching and learning (Wagner. 2001, Garrison & Andersen, 2003). ICT can help deepen students content knowledge engage them in constructing their own knowledge an support the development of comples thinking skills (Kozma, 2005, Kulik, 2003; Web and Cox, 2004).

### Conclusion

In order to conclude we will try to proceed to synthesize from a general viewpoint the results obtained, taking into consideration the relevant aspects of the literature. The result provided by both the quantitative and qualitative analysis of the literature obtained will be expose especially regarding those aspects which are related to ICTs for education and ICTs in education. ICTs for education refers to the development of information and communication technologies specifically for teaching-learning purposes, while the ICT in education involves the adoption of general components of information and communication technologies in the teaching learning process. The literature review has sought to explore the role of ICT in century. In particular ICTs have impacted on educational practices in education to date in quite small ways but that the impact will grow considerably in years to come and that ICT will become a strong agent for change among many educational Extrapolating current activities and practices, the continued use and development of ICTs within education will have a strong impact on: ICT and teaching learning process, quality and accessibility of education learning motivation, learning environment and ICT usage and academic performance

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